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Complete
arranged,

An. Essay
on the
Tubercular Phthisis

Respectfully submitted
to the
Homoeopathic Medical College
of Pennsylvania
on the
first day of February, one thousand
eight hundred, and fifty.
For the
Doctors in Medicine,
By
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In talking into consideration this disease I shall commence by investigating or enquiring into the pathology or morbid anatomy of phthisis. — The pathology of phthisis was for centuries misconceived; the true nature of tubercles being unknown, it was supposed that the ulceration which followed the evacuation of tuberculous matter was the cause of the disease. — Hippocrates mentions that he discovered them in the lungs and spleen and imagined that they consisted of putrified phlegm. — He and Galen entertained the opinion that ulceration of the lungs is caused by the afflux of humours from the head and the putrefaction of blood effused in the lungs ^{which} were adopted by most medical writers who mention tubercles, until after the revival of literature. —

Sylvius de la Boe whose works were published in sixteen hundred and seventy nine, was the first who gave a good account of tubercles, at the same time pointing them out as a cause of phthisis, and showing their connection with scrophula. — He thought they originated from the scrophulous degeneration of certain invisible glands in the lungs, similar to those in the neck and mesentery. — This notion was received and illustrated by a number of his successors particularly by Wharton

and Wepser, and have been received in our own day by Broussais. Nothing farther was understood concerning them till the comprehensive and satisfactory dissertation of Desault of Bordeaux was published in 1733. — This author by applying himself to the investigation of phthisis for a period of thirty six years, obtained an extensive knowledge of the pathology of the disease. He maintained that the true cause of phthisis was the formation of tubercles in the lungs, and pointed out many phenomena respecting their development which have since been ascribed to more modern authors. — In the middle of the last century, Russel, Balles, Gilchrist, and Mudge, embraced, more or less, the views of Desault, while their contemporaries forgot his discoveries. — With the exception of these, the knowledge of tubercles seems to have rather retrograded than advanced, till it was revived by the untiring researches of Mr. Stark. — The following are the facts which he ascertained by the investigation of ten bodies. — We discovered that tubercles when submitted to the action of the microscope, were not and exhibited no indications of organization; that they are of all sizes, from that of a granule to the diameter of

half an inch; that they soften at different points of their substance; and that the cavities proceeding from them vary in size from half an inch to three or four inches. - We also found that these cavities communicate with the bronchia by smooth round openings; and with each other by ragged ones; that they are always partially or entirely, lined, with a smooth, thin, tender slough or membrane; that the larger cavities are generally or often found ~~readily~~ empty; that they are generally located towards the back part of the upper lobe; that their communication with the cavity of the chest is prohibited by broad firm adhesions between the pleura costalis and that portions of the lungs which they occupy; and that crude tubercles are most always found accompanied by such adhesions. - We also gave an accurate description of the hepatization of the lung, and the obliteration of the blood vessels which were contiguous with the tubercles and caverns. - We also noticed and described the thickening and reddening of the bronchia and trachea and also the inflammation and ulceration which occurred in the intestines. - Since the days of Stork the works of Baille, and still more the works of Bagle, Laennec, Louis,

Andral, and Carsewell have rendered our knowledge of the morbid anatomy of tubercles more complete than that of any other morbid product. — Different opinions, however, are still entertained regarding their nature and method of development; but as the subject is involved in obscurity and that no one out of the many theories which have been advanced do give a satisfactory exposition of the subject I will proceed at once to the consideration ~~of~~ the formation and progress of tuberculous matter in the lungs and to the changes which it produces in the lungs when present. — Tuberculous matter is deposited in three distinct and separate forms, namely, grey semitransparent granulations; caseous, or crude tubercle; and tuberculous infiltration, Granulations. — In all stages of phthisis grey semitransparent are most always present, and accompany every form of the disease. — They have a consistence somewhat less than cartilage, being not unrequently almost colourless though generally grey; they differ in size from that of a mustard-seed to a pea, being sometimes separate, often united in small clusters like grapes, and sometimes though more rarely agglomerated in masses of

one, two, or three cubic inches. — They are most generally found in considerable numbers, generally confined to a great part of the tissue surrounding large excavations and of the bands which pass through ^{them}. The time requisite for their development is very variable. — Louis says they may attain the size of a pea in the space of three or four weeks in acute phthisis; in other cases for instance in chronic they may remain small for a long period; thus, in a number of individuals who had cough and frequent attacks of hemoptosis for many years, granulations, about the size of peas, were the only lesions found by this physician after death. — When subjects afflicted with this disease or those who have a pre disposition to tuberculous deposits are exposed to violent irritations of the lungs, these granulations are deposited so rapidly and in such vast numbers over the whole surface of the lungs, as to give rise to the most alarming dyspnoea and even produce death by suffocation. The granulations, begin to loose after a time their transparency and consistency, and become white, opaque, and friable. — When these mutations are perfected, the granulations receive the name of crude tubercles. — The period at which these changes take place

varies indefinitely; in adults death rarely or never happens before some of them are effected. — It is ~~thought~~ by some writers that the change takes place much more rapidly in children than in adults. — Laennec and Louis suppose that it invariably begins at the centre of the granulations; but Andral and Crossewell maintain that it may commence at the centre or at any point of the circumference indifferently. — Grey granulations were first noticed and described by Bayle, who thought they were a morbid product, sui generis. — He described them as constituting a species of phthisis, sometimes wholly simple, but most generally complicated with the tuberculous. — He supposed that in time they produce ulceration, and that the cavities to which they give rise are distinguished from those which follow tubercles by being lined with false membranes. — Laennec, on the other hand, maintained that they are necessarily the first form under which tubercles presents ~~themselves~~. Another opinion regarding the nature of these granulations has been advanced by Andral who has endeavoured to prove that they are the result of chronic inflammation of the parietes of the air-cells. — The opinion that grey granulations

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always constitute the first stage of tubercles is supported by the following facts - that granulations are only found in tuberculous subjects; that, in them, they occur, not only in the lungs but also in the lymphatic glands, in the liver, in the spleen, and on serous membranes; lastly, that in these organs, as in the lungs, they ultimately assume the character of crude tubercles. - But it has been proved by Dr. Bence-Jones that the grey semitransparent substance does not necessarily precede the formation of opaque tuberculous matter; that the latter is found in several organs in which granulations are never observed; and that its form chiefly depends on the structure of the organs on which it is deposited

Crude tubercles. - This appellation is applied to certain tumours of a rounded form, differing in size from that of a pin's head to a small walnut. Exhibiting a yellowish white colour and a soft cheesy consistence: in some cases only a few are observed at the summit of the lungs; in others they are diffused over a greater part of their substance. They are as it has been shown generally the result of changes which have taken place in the

matter deposited under the form of grey granulations although, on the other hand, it is the opinion of all modern pathologists, with the exception of Laennec and Louis that tuberculous matter is often primarily deposited in the crude form, in the lungs as well as in other organs. This opinion is sustained by the facts that the granulations in some cases are entirely wanting, — and that large masses of crude tubercles are found in some cases of acute phthisis which are too rapid in their march to allow time for the change from granulation to tubercle. These two forms, generally co-exist; Louis having met with only ^{one} two cases of crude tubercles without granulations, and five of granulations without tubercles. Tuberculous infiltration. — The first form in which tuberculous matter manifests itself in the lungs is that of infiltration into the cellular tissue of the organ. Baille, who first noticed this state gives the following accurate account of it: — "In cutting into the lungs, a considerable portion of their structure sometimes appears to be changed into a whitish soft matter, somewhat intermediate between a solid and a fluid, like a scrofulous gland just beginning to suppurate. — This appearance is, I believe, produced by scrofulous matter being

deposited in the cellular substance of a certain portion of the lungs, and advancing towards suppuration. It seems to be the same matter with that of tubercles, but only diffused uniformly over a considerable portion of the lungs, while the tubercle is circumscribed. — This state or condition has since been described by the French under the name of infiltration. — Another deposit of a peculiar kind never found in other diseases, is the yellow-jelly-like matter, the infiltration tuberculeuse gelatiniforme of Laennec, who believes that it is only a more liquid state of the tuberculous matter poured into the parenchyma of the lungs.

As the nature origin and formation of this peculiar modification of matter is imperfectly understood I shall refrain from entering into an investigation of the subject. — As a general thing, tuberculous matter first makes its appearance in the lungs in the form of the grey semitransparent granulations which have been just described, and which gradually assume the character of crude tubercle, — While these are undergoing the usual process of softening, and while ulceration is going on around them, tuberculous matter is constantly being deposited in the neigh-

adjoining tissues, so that excavations are often found at the
 summit, crude or softened tubercles below these excavations, and
 granulations offering no traces of opaque matter in the lowest
 part of the lungs. — At a late period of the disease the pulmonary
 parenchyma is occasionally so filled with tuberculous matter as
 to leave ~~no~~ but few or no traces of its original structure, the whole
 constituting one dull, opaque, grey, or white mass of tuberculous
 infiltration, excavated to a greater or less extent. — The nature, extent,
 and relation of the different forms of tuberculous matter, and the
 changes which they undergo in the lungs, vary greatly in different
 individuals. — The upper and back part of the lungs is the most
 common seat of tubercles, and the left side is more frequently
 affected than the right; an observation which was first made
 by Stark, and confirmed by Carmichael Smyth from an exam-
 ination of the cases recorded by Bonnet and Morgagni, and more
 recently by Louis from his own experience. — The last author found
 tubercles exclusively confined to the right in two cases only,
 whereas he noticed the same phenomena in five instances on the
 left side: of thirty eight cases in which the upper lobe was totally

occupied by large excavations and tubercles, so as to be impervious to the air, he met with twenty eight in the left and twenty in the right lung: and in eight cases of perforation of the pleura, he found seven on the left and only one on the right side. When to these observations are added the result of Reynaud's experience, who found twenty-seven of forty cases of pneumonia there are on the left side, and only thirteen on the right, it is considered that there are sufficient evidence to confirm the conclusion that the left lung is most frequently affected.

I believe it is generally admitted by writers and teachers on the subject that the reverse holds good in respect to pneumonia.

I will now notice the condition of the lung around tubercles.

So long as ^{the} tuberculous matter remains as primarily deposited, whether in the form of grey granulations or crude tubercles, the surrounding parenchyma will remain healthy; but as soon as the grey granulations are converted into crude tubercles or softening in the latter begins, congestion of the pulmonary tissue surrounding the tubercles takes place, it is firmer than natural, and of a red or grey colour. Sometimes the tubercles do not excite irritation in the surrounding tissues, and consequently remain the

even for years, in their primary state; in others the more fluid parts of the tubercles are simply absorbed, while the most solid ones are left in the form of a calcareous concretion. — This last termination occurs not infrequently in persons who fall victims to a subsequent attack of phthisis at a more advanced period of life. — In such cases the new deposit is most apt to occur in those parts of the lungs previously affected, and whose tissue has been more or less changed by the presence of the tubercles originally found; for it is by no means uncommon to find bony or calcareous concretions in the midst of tuberculous masses, in caverns, or even expectorated with matter derived from the softening of tubercles of a more recent date. — In the process of this change from crude tubercle to calcareous concretion, such a degree of irritation occasionally takes place in the immediately surrounding parenchyma, as to produce the deposition of coagulable lymph, which then forms a sort of cyst surrounding the tubercle or concretion, and thus completely destroys its power of again irritating the lung. — The process of softening has been regarded, by Laennec as a consequence of the death of the tubercle, he supposed that tubercles are an organizable morbid product; and it has been stated by others

who did not take this view of the subject, to begin always at the centre and to proceed towards the circumference. — This opinion, however, suppose some attrition in the substance of the tubercle; but as there is ample proof that tubercle is a ~~necesse~~ morbid product or secretion incapable of organization, it cannot be admitted that it is subject to any change after its deposition, excepting that which arises from the action of the surrounding tissues upon it. — It has been proved by Dr. Carsewell that the soft appearance of the center of the tubercle has no connection with the process of softening but depends on the tuberculous matter being deposited from the internal surface of the air-cells or bronchia, leaving a hollow in the center filled frequently with the soft fluid usually contained in them. Stark, Andral, and many others have made the observation that the softening does not always begin in the centre, but may appear either there or at some part of the circumference indifferently. — The process of softening is, regarded by a majority of medical writers, as a consequence of the changes produced in the tissues where this matter is deposited. —

The changes induced in the lungs by the existence of tubercles, are, sanguineous congestion, infiltration, induration and

softening, ulceration, mortification, and decay. — If the tubercles exist in great numbers, or accumulate in considerable masses before the process of softening commences, they press upon and generally obliterate some of the blood-vessels; preventing free circulation of the blood, and giving rise to various degrees of congestion. — When this happens towards the root of the lungs, the obstruction to the circulation of the blood which it occasions is so great that the small capillaries often give way, and the blood is poured into the bronchia and hemoptosis will be the consequence. — When instead of producing merely impeded circulation and consequent congestion of the lungs, tubercles give rise to irritation and inflammation in the surrounding tissues, or when other causes excite inflammatory action in parts containing tubercles, we have the usual appearance of inflammation in its various grades. — The parts in immediate contact with the tubercles pour out serosity and take on the ulcerative action, by which the tuberculous matter is broken up and sooner or later expectorated, leaving a cavity in its place. — By this successive breaking down of the contiguous tuberculous masses, the cavity becomes increased in size, when it assumes the name of cavern. —

The views of Dr Carsewell respecting the seat of tubercle enable us to explain, in a very satisfactory manner, the mode in which the different tissues are successively affected. The tuberculous matter being, as he describes, deposited in the air cells and minute bronchial tubes, these parts are necessarily irritated first by it; and being constantly distended and pressed upon in every direction by the matter accumulating within them, are gradually enlarged in size, and sooner or later destroyed by the ulcerative action. — The bronchia are thus found invariably enlarged, stopping abruptly, and appearing as it were cut across at their entrance into a ~~cavum~~ *cavum*; and unlike the other tissues of the lungs, they are never found enveloped and compressed by deposition of tuberculous matter around them, except in those instances of rapid infiltration in which the whole substance of the lung appears infected simultaneously.

The surrounding cellular tissue, healthy air vesicles, and blood-vessels, are at first only pushed aside by the deposit of tubercle, and are therefore only affected in a secondary manner, which is nevertheless sufficient to cause their atrophy, or produce from the infiltration of fluids a condensed state, partaking more or less of

character of tuberculous matter, is of the common products of inflammation. — Hence, the tissue which surrounds crude tubercles and excavations is almost impervious always to air, from the effects of inflammation or the infiltration of tuberculous matter. —

The mode in which the blood-vessels are affected by the development of tubercles and the formation of caverns in the lungs, has been so well described by Stark I shall introduce the whole of his remarks upon it. — “The pulmonary arteries and veins,” he says, as they approach the larger bronchia, are suddenly contracted; a blood-vessel which, at its beginning, measured half an inch in circumference, sometimes (although it had sent off no considerable branch) could not be cut up further than half an inch. — And when outwardly they are of a large size, yet internally they have a very small canal, being mostly filled up by a fibrous substance; and frequently as they pass along the sides of bronchia they are found quite detached, for about an inch in their course, from the neighbouring parts. — That the blood-vessels are thus obstructed, and that they have little or no communication with the bronchia, is rendered still more evident by blowing into them; by blowing they are not evidently

distended, nor does the air pass into the bronchiae, excepting very rarely, and then only by some imperceptible holes: and after infecting the lungs by the pulmonary artery and vein, the parts less affected by disease, which before infection were the softest, became the hardest, and vice versa. Rupture of the coats of the blood-vessels, occasionally takes place; and, according to the size of the opening and the capacity of the affected vessels, the patient may have trifling hemoptosis, or perish in a few seconds from the profuse discharge of blood. — The rarity, however, of this accident may be estimated by the fact, that, the bands which traverse the caverns were found by Louis to contain previous blood-vessels in only five out of one hundred and twenty-three subjects whom he examined.

As the neighbouring caverns increase in size, the intervening parenchyma is gradually destroyed, till they coalesce, and change an entire lobe into one large, jagged, irregular cavity, in which portions of the pulmonary tissue are often found, either hanging loosely or traversing it in various directions in the shape of bands, and occasionally perfectly detached. — These loosened portions, the bands, and the walls of the cavern, present little or no trace of the

healthy pulmonary tissue. — They are of a red or grey colour, and exceedingly hard, being for the most part composed of semitransparent granulations, or crude tubercles and black pulmonary matter. — Portions of the walls also occasionally mortify, which gives rise to the foetid smell which is sometimes observed in the breath and expectoration of the patient towards the termination of the disease. — The cavities generally contain more or less of a fluid of various consistence and color; sometimes having a resemblance to thick curds; at others to pus, mucus, or simple serum. — A cavity may contain more or less of all these various products, mixed with effused blood or destroyed parenchyma, or it may be filled with one only. — In a few rare cases, it is found quite empty, and is then generally lined throughout with a dense false membrane. — Cavities were never found empty by Louis, before the end of the third or beginning of the fourth month from the commencement of the disease. — When old, and especially when not lined with membrane, they contained a green, dirty-looking fluid, sometimes tinged with blood. —

Although, as we have seen, caverns generally tend to increase in size, yet not infrequently when they occur singly, and

and when no fresh depositions of tubercles takes place, they remain a long while stationary. - In cases still more uncommonly, they gradually contract and are obliterated. - The parietes of the cavity consisting of simple mucous tissue, become gradually and successively contracted, according to Dr Carsewell into serous and fibrous, and sometimes into fibro-cartilaginous and cartilaginous tissue. - More frequently it retains the fibrous character, possessing the property of contracting, so as to diminish the bulk of the excavation. - As the contraction proceeds, a puckering of the surrounding lung takes place, which is most conspicuous where the pleura is forced inwards by the retrocession of the pulmonary substance. - The contraction in some cases ^{proceeds} so far that a small portion of fibro-cartilaginous tissue only remains where an excavation of considerable extent had existed. - That cavities are really obliterated in this manner, is proved by the ^{previous} existence of pectorilgy and other signs of cavities in those parts where the cartilaginous masses are found; by their situation and form, by the condition of the bronchia, and the puckering of the surrounding pulmonary tissue. - This alone constitutes what can be considered a perfect cure of tuberculous disease of the lungs. -

Having considered the origin and development of

tubercles and the changes or alterations which they produce in the lungs: we will now pass on to the consideration of the etiology or some of the prominent causes of the disease.— The causes of tuberculous disease, like those of most diseases, are referable to two distinct and separate heads, the remote and the exciting,— or those which induce the constitutional predisposition, and those which determine the local deposition of tuberculous matter after such predisposition is established.— The one class of causes operate by modifying the whole system, the other by determining in a system so modified, the particular morbid action of which tuberculous matter is the product.— The share which these two classes of causes have in the production of tubercle varies in different cases.— When the person is little exposed to the exciting causes, the constitutional predisposition may be long present without any local affection, while continued exposure to exciting causes may determine the local disease when the morbid state of the constitution exists only in a slight degree.— We have examples of the former among the wealthy classes of society, where we see the tuberculous cachexia prevail for a considerable time without the actual development of tubercles, because the person is little exposed to the usual exciting causes, and even sedulously avoids them; and

we meet with instances of the latter amongst the poor, when engaged in occupations in the exercise of which the lungs are peculiarly exposed to irritation, by which a diseased state of the bronchial membrane and finally tuberculous disease are produced. — Of this number are the numerous classes of mechanics, who breathe for many hours every day, an atmosphere charged with fine particles of sand, metal, and other particles which when inspired produce irritation of the lungs. — The most striking examples of consumption which have been adduced as the consequence of pulmonary irritation, occur in persons who are at the same time exposed to some of the most powerful causes of tubercular cachexia, such as sedentary occupations carried on in a confined and deteriorated atmosphere, and very often also to excess — ~~the~~ indulgence in the use of ardent spirits; so that they are exposed to that cause which induces the constitutional and local disease at the same time. — First. — Hereditary transmission as a cause of phthisis. — I believe it is admitted by all writers of respectability that in accordance with one of the organic laws pulmonary consumption is hereditary. — Second. — Of the causes which give rise to tuberculous cachexia in individuals not predisposed to phthisis. — Improper diet: impure air: deficient exercise: excessive labour: improper clothing: abuse of spirituous liquors. —

Having considered the pathology and etiology of the disease we are now prepared to proceed to the symptoms.—

Cough as a general thing is the first symptom which manifests itself.— During the first weeks or months, it is usually a slight cough, occurring chiefly in the morning on the patient getting up, or on his making any bodily exertion during the day. As the disease advances by degrees, it occasionally occurs during the day, especially after any exertion, such as running up stairs speaking or reading aloud for sometime, laughing, &c, and after a longer or shorter time is attended with the expectoration of a transparent frothy fluid resembling saliva, which at first appears to come from the fauces.— In general, the cough is found to increase as pulmonary disease advances, being usually in proportion to the rapidity of its cause.— It occasionally happens in the progress of chronic phthisis, even during the existence of tuberculous excavations, that both the cough and expectoration cease for weeks when the patient is placed in favourable circumstances; but both are usually brought back again by the slightest attack of catarrh.— As the disease advances, it is common ^{at times} ~~at times~~ and without any evident cause of excitement.— In the latter stages it is followed by a degree of breathlessness amounting in some cases to a sense of

suffocation, which is very distressing. — Such are the usual characters of the cough which is indicative of tubercular disease of the lungs in its various stages, when not complicated with other morbid states of these organs.

Dyspnoea. —

This symptom is always an attendant of pulmonary disease and when taken in conjunction with the rest is a valuable one. — *Expectoration.* —

When the cough has continued for some time, it becomes gradually softer, and a transparent,ropy fluid, resembling saliva, is expectorated, becoming by degrees more stringy and tenacious. — After a longer or shorter period, varying remarkably in different cases, specks of opaque matter appear mixed with the transparent ropy fluid. — These specks vary in appearance, being at one time white, at another yellow or even approaching to green, and again very frequently of an ash colour, partly sinking in water in little masses, and partly floating in it. — Immediately before, or at the time of this change in the character of the expectoration, a little blood frequently appears in it. — As the disease advances, the transparent salivary portion diminishes, while the opaque part increases and gives a more homogeneous aspect to the expectoration, which

is now of a yellowish colour, and is brought up by the cough with more ease and in more distinct masses. - At a later period it is of an ashy colour, and is expectorated in separate, rounded, flocculent-looking masses, enveloped in a certain proportion of the transparentropy fluid. - If thrown into water of this period, some of these masses sink to the bottom; others are suspended at different depths, connected together by the rosy fluid expectoration before mentioned. - Such are the changes in the character of the expectoration which are generally observed in phthisis. - The periods in the progress of tuberculous phthisis at which expectoration commences differ in different cases. - In regard to the sources of the expectorated matter, it is evident that when the tubercles are still in ^{an} early state, it must be supplied by the bronchial membrane. - Dr Carsewell has shown that the chief seat of the tubercles is in the air-cells and extreme terminations of the bronchis; when they accumulate in any quantity they produce irritation, this irritation is first communicated to the mucous membrane in the immediate vicinity of the tuberculous matter. - As the small masses of tuberculous matter contained in the air-cells accumulate, the bronchial membrane and the pulmonary tissue become excited and irritated; a degree of inflammatory action most probably takes place, and a sero-flocculent fluid is poured out, by which the tuberculous matter is penetrated and

softened. — The surface of tubercular excavations affords an additional section of matter. — This symptom taken alone cannot be relied upon but in conjunction with others it has its value. — Hemoptosis. —

Hemoptosis in conjunction with cough occurring in males, is almost always an indication of the existence of tuberculous matter in the lungs; but when confined to females we cannot place so much reliance upon it for it may be precursory of the catamenia. — Pain in the chest. —

Pain in conjunction with a tubercular diathesis cough &c, is another link in the chain of circumstances tending to confirm the disease. — The pulse. —

A frequent pulse, in a tuberculous subject, even taken as an isolated symptom, is one which should excite suspicion; and when accompanied with other symptoms indicative of pulmonary disease, it adds strongly to the presumption that mischief has already commenced. — hectic fever. —

The first febrile sign remarked by the patient is a sensation of chilliness towards the evening. — This sensation increases as it continues to recur, amounting often to a slight shivering; it is then usually succeeded by heat of skin during the night, the heat being particularly felt in the feet

and hands, which are for the most part habitually cold in tuberculous patients. — After a time morning perspirations are found to succeed the hot stage. — As the disease advances, these paroxysms of fever become, ^{stronger} especially the hot stage, and the heat is more generally diffused over the whole body. — *Perspirations.* —

The perspirations occur chiefly in the morning more especially if the patient happens to fall asleep after having once awoken. — As the disease advances, they come on whenever the patient falls into a sleep. — During the early stages, they are confined to the head and upper part of the body; but by degrees they extend over the whole surface. — Although generally occurring in an advanced stage of the disease, perspirations occasionally attends its very earliest periods. — In some feeble young persons, the copious morning perspiration is one of the most remarkable symptoms, and most disproportionate to all others. —

The importance of the perspirations as a diagnostic sign is not considerable, because other symptoms of a more marked character usually precede and accompany it; but in doubtful cases it should never be neglected or passed over with indifference. — *Diarrhoea.* —

Diarrhoea seldom occurs until the disease is far advanced;

in a small proportion of cases not until a few days before death; and instances have occurred where it was entirely wanting. — Haemoea often proves one of the most distressing symptoms of the disease, being attended, after it has lasted for some time, with severe pains before each evacuation, and by a deadly sensation of sinking immediately after it. — The evacuations are generally of a yellow bilious colour. — It is not, however, of much importance as a diagnostic sign, because long before it becomes conspicuous, the nature of the disease is sufficiently evident. —

Emaciation

In general this symptom begins early, and is probably in part owing to disease of the lungs impeding the process of assimilation. — When it occurs in conjunction with the other symptoms and indications of tuberculous phthisis it is a valuable symptom. —

Edema. —

This symptom is of little importance as a diagnostic symptom, because for the most part the nature of the disease is well marked long before its occurrence. — It is in general, a pure prognostic that the disease is approaching its termination. —

Aphthae. — This symptom generally occurs a week or two before death, and, like the other symptoms, varies greatly in degree, being sometimes productive of little inconvenience, and at others attended with so much irritation and tenderness of the mouth, as to prove a source of considerable suffering to the patient.

Having considered the pathology and symptomatology of the disease we will now pass on to the treatment.

The chief remedies in this disease are: *Ars. calc. carb-v.*
hep. Kal. lach. Lye. merc. nitric-ac. phos. samb. sulph. n. elae:
Am-c. arn. ars. bell. chlo. fer. hyos. Kal. merc. nitr. stann.
sulph-ac. —

The symptomatic indications are as follows:

Aconite: When there is frequent congestion in the chest, with a short cough, hemoptoeis, and disposition to pulmonary inflammation. —

Amorium: When the expectoration is slimy and sanguinolent, and there is excessive oppression at the chest, with shudders of ~~death~~ *death*. —

Belladonna: Especially in scrofulous children, with nocturnal cough.

short breath and rattling of mucus; or in young girls at the critical age. —

(Ulp. lach. phos. or sil. is often suitable after bell.)

Calcareo is one of the principal remedies for employment in the stage of purulent expectoration, especially after the action of Sulph. or of nit-ac; or else in the first stage, especially in young plethoric persons, subject to sanguineous congestion, to bleeding at the nose, &c, and also in young girls who have the catamenia profusely and too frequently. (Lycos. or sil. or nit-ac. is sometimes suitable after calc.)

Casto-seg: Especially when the cough is violent, spasmodic, at one time dry and painful, at another accompanied by expectoration of puriform mucus, mixed, or not, with tuberculous matter. —

China: Especially after frequent attacks of pulmonary hæmorrhage, or when there is debility from sanguineous evacuations. —

(In this case, fer. is often suitable after chin.)

Sulcamara: Especially when there is a strong tendency to take cold, or when frequent colds have contributed to develop the complaint too rapidly. —

Senega: Commonly when the complaint has exhibited itself in consequence of pneumonia, or neglected catarrh, and

especially when, in addition to the phthisical symptoms, there is dyspnoea, with vomiting of food. (In this latter case, chin. also will frequently be of great benefit.)

Nepes: Especially in children and scrofulous young people, in the first stage of the disease, frequently after bell. or alternately with *nit-ac. sil.*

Lachesis: Especially after: Bell. *huf. Sil.* or alternately with these medicines.

Hali carb.: a medicine no less important than *calc.* against both incipient and confirmed phthisis, especially after the exhibition of *nit-ac. or sil.*

Lycopodium: Is one of the most powerful remedies, when, in consequence of violent or neglected pneumonia, there appears a hectic cough, with purulent expectoration; or else against the symptoms of tubercular phthisis, with hemoptoe. It is often suitable after *calc. sil. phos.* or alternately with these ~~symp~~ medicines.—

Nitric Acid.— Chiefly at the commencement of the complaint, before *Hal.* has been administered, and particularly in dark persons, of a rather yellowish complexion, and subject to frequent relaxation

of the bowels.—

Phosphorus is a medicine no less important than *Cale.*

Kali. sil... both against incipient and confirmed phthisis, especially in meagre and fair persons of a slender shape and strong sexual feelings; also in children, and especially in young girls of a delicate constitution, with dry, short cough, shortness of breath, great emaciation, tendency to diarrhoea or perspiration. (It is particularly suitable after bell. or alternately with *Lyc. sil.*)

Sambucus: Especially when the disease is characterized by profuse colligative perspiration.—

Stannum.—When there is a profuse expectoration of mucus, or when neglected catarrhs threaten to terminate in phthisis.—

Sulphur: For pulmonary suppression after violent pneumonia, also for tubercles in the second stage, even for incipient tuberculosis, provided the inflammatory symptoms had been removed by other remedies (such as: *Acon. filios.*) and a dose is allowed to act for several weeks.—